

**BEFORE  
THE PUBLIC SERVICE COMMISSION OF  
SOUTH CAROLINA  
DOCKET NO. 2018-319-E**

In re: Application of Duke Energy  
Carolinas, LLC for Adjustments in  
Electric Rate Schedules and Tariffs and  
Request for an Accounting Order

**SURREBUTTAL TESTIMONY OF  
EZRA D. HAUSMAN, PH.D.  
FOR SIERRA CLUB**

1     **I.     IDENTIFICATION OF WITNESS AND PURPOSE OF TESTIMONY**

2     **Q.     Please state your name, occupation, and business address.**

3     A.     My name is Ezra D. Hausman, Ph.D. I am an independent consultant doing business as  
4           Ezra Hausman Consulting, operating from offices at 77 Kaposia Street, Auburndale,  
5           Massachusetts 02466.

6     **Q.     Are you the same Dr. Ezra Hausman that submitted direct testimony in this**  
7           **proceeding?**

8     A.     Yes.

9     **Q.     What is the purpose of your surrebuttal testimony?**

10    A.     The purpose of my testimony is to respond to statements made during the rebuttal  
11           testimony of Duke Energy Carolinas (“DEC”) witness Steve Immel regarding the  
12           Company’s justification for not performing comprehensive economic analyses before  
13           making capital investments at its coal-fired power plants.

14    **II.    STATEMENTS MADE BY DEC WITNESS STEVE IMMEL**

15    **Q.     Please describe the rebuttal testimony of Mr. Immel that you would like to address?**

16    A.     Mr. Immel states that the Company performs retirement analyses on an “as needed basis”  
17           and that its fleet management practices are “reasonable and appropriate.” (Immel  
18           Rebuttal at 3, lines 13–15.)

19    **Q.     Does Mr. Immel explain what “as needed basis” means or point to any evidence**  
20           **regarding reasonableness or appropriateness of the Company’s management**  
21           **practices of its coal fleet?**

22    A.     No. “As needed basis” is not defined, and the assertion that the Company’s management

1 practices are “reasonable and appropriate” is conclusory. It appears that the Company  
2 expects the Commission and its customers to simply take its word that continuing to  
3 operate and invest in maintenance and upgrades of its fifty-year-old coal plants is a  
4 prudent and reasonable use of ratepayer resources. However, the Company’s failure to  
5 fairly evaluate the cost-effectiveness of coal unit retirement and replacement with clean  
6 energy resources means that investments of capital at those units very well could be  
7 uneconomic, unreasonable, and imprudent.

8 **Q. Do you agree with Mr. Immel’s statement that “the Company did perform a**  
9 **comprehensive retirement analysis for the Allen station in April 2017”?**

10 A. No. As discussed in detail in my direct testimony (*see* Hausman Direct at 9–13), the  
11 “analysis” on which the Company based its decision to continue operating Allen Units 1  
12 through 3 until the end of 2024 and Units 4 and 5 until 2028 is not comprehensive and  
13 did not involve a fair comparison of the economics of those units relative to a variety of  
14 resource alternatives, including renewable sources and energy storage resources.

15 **Q. How does Mr. Immel describe the Company’s decision not to perform a full**  
16 **retirement analysis for its Marshall and Belews Creek coal plants?**

17 A. With respect to that decision, Mr. Immel states that “the Company determined that  
18 environmental compliance retrofits far outweighed the alternative of replacing over 2,000  
19 MWs of generation per site, amounting to approximately \$1.7 billion per site, excluding  
20 gas pipeline costs.” (Immel Rebuttal at 4, lines 4–7.)

21 **Q. Do you find the justification offered to be reasonable?**

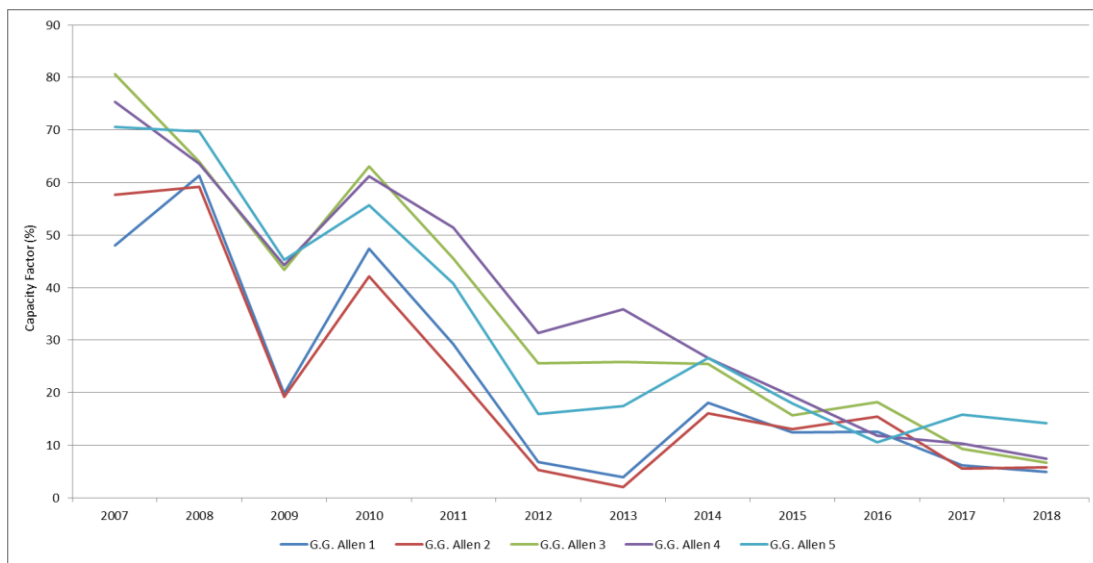
22 A. No. According to Mr. Immel’s statement, the Company limited the alternatives for  
23 meeting customer demand to a single alternative that would cost approximately \$1.7  
24 billion per site. The reference to gas pipeline costs suggest that the alternative considered

1 was gas-fired generation. As I stated in my direct testimony, a comprehensive retirement  
 2 analysis “should include consideration of a full range of alternatives for meeting  
 3 customer needs in the absence of each coal unit, including *demand management*,  
 4 *transmission, renewables, and storage*.” (Hausman Direct at 9, lines 7–9.)

5 Moreover, as demonstrated in my direct testimony, the Company has been operating all  
 6 of the units at the Allen plant, Cliffside Unit 5, and Marshall Units 1 and 2 at lower  
 7 capacity factors than in the past, with a steady downward trend.

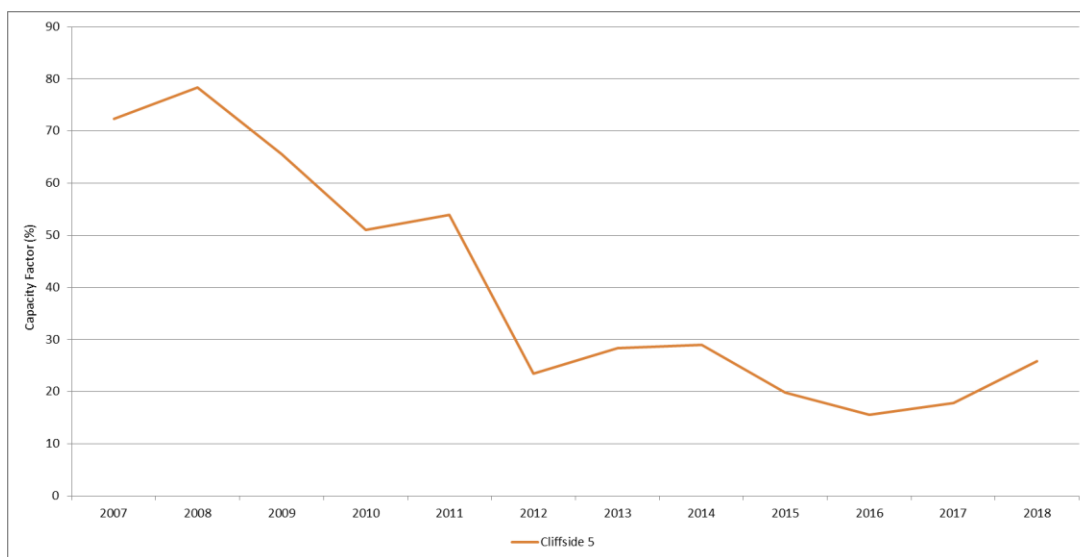
8 As shown in Figures 1, 2 and 3, while Allen Units 3, 4, and 5, Cliffside Unit 5, and  
 9 Marshall Units 1 and 2 operated at a capacity factor between 40% and 90% before 2011,  
 10 by 2018 they were each operating at capacity factors below 30%.

11 *Figure 1. Capacity Factors at Allen, 2007-2018*



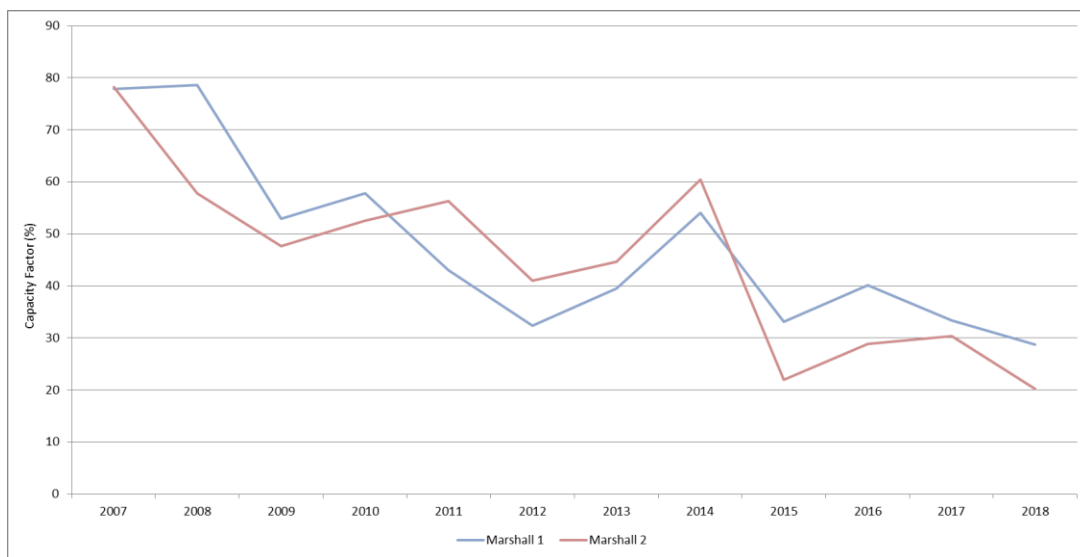
12  
 13 *Source: S&P Global Market Intelligence; SNL Energy Data; accessed March 19, 2019.*  
 14 *(2018 represents capacity factor data through November 2018)*

Figure 2. Capacity Factors at Cliffside Unit 5, 2007-2018



Source: S&P Global Market Intelligence; SNL Energy Data; accessed March 19, 2019.  
(2018 represents capacity factor data through November 2018)

Figure 3. Capacity Factors at Marshall Units 1 and 2, 2007-2018



Source: S&P Global Market Intelligence; SNL Energy Data; accessed March 19, 2019.  
(2018 represents capacity factor data through November 2018)

1 Given this trend, there is no reason to assume that a megawatt-for-megawatt replacement  
2 of coal-fired generation with gas-fired generation is the best, least-cost resource plan for  
3 meeting customer requirements. The Company's failure to explore other alternatives to  
4 the continued operation of and investment in its old coal units is unjustified and  
5 unreasonable.

6 **Q. What does Mr. Immel say about requiring retirement analyses before additional**  
7 **capital investments at the Company's coal units?**

8 A. Mr. Immel states that "Mandating the performance of retirement analyses prior to the  
9 Company's decision to make capital improvements limits the Company's ability to use its  
10 best judgment and experience to manage its fleet." (Immel Rebuttal at 4, lines 12–15.)

11 **Q. Do you agree with this statement?**

12 A. No. As this Commission is well aware, oversight of a regulated monopoly utility like  
13 DEC is necessary to ensure the protection of ratepayers. Determinations of  
14 reasonableness and prudence must be supported with facts and comprehensive analysis.  
15 The regulator's role is not simply to ensure that the company managed its contracts and  
16 labor costs well. The Commission must evaluate the prudence of capital investment made  
17 with ratepayer dollars to protect these ratepayers from unreasonable risk and unjustified  
18 costs.

19 Protecting ratepayers from the burden of uneconomic investments in the Company's coal  
20 fleet is impossible without comprehensive retirement analyses of the sort I described in  
21 my direct testimony. This conclusion is supported by industry trends and shifting  
22 resource economics seen throughout the United States, including in the Carolinas. It Is  
23 also supported by the many examples, some of which I cited in my direct testimony, of  
24 such analyses leading to early retirement decisions. It is not reasonable for the Company

1 to ask the Commission to turn a blind eye and simply rely on the “best judgement and  
2 experience” of the Company on capital decisions.

3 **Q. Are there any other parts of Mr. Immel’s rebuttal testimony to which you would**  
4 **like to respond?**

5 A. Yes. Mr. Immel advances the opinion that the retirement analyses I have recommended  
6 “are more appropriately addressed in the Company’s annual Integrate Resource Planning  
7 (“IRP”) proceeding.” (Immel Rebuttal at 2–3.) However, the Company’s last IRP does  
8 not include any such retirement analyses. Instead, the Company hard-wired the projected  
9 lifespans of its existing coal units as inputs to its modelling, thus preventing a fair  
10 comparison of the economics of the units relative to other resources. For this along with  
11 the other reasons I have stated, I maintain my recommendations that the Commission  
12 require DEC to complete a comprehensive economic and retirement analysis of each of  
13 its coal units.

14 **III. Conclusion**

15 **Q. Does this conclude your surrebuttal testimony?**

16 A. Yes.